

Appln No. 10/563,471

Amdt date September 21, 2009

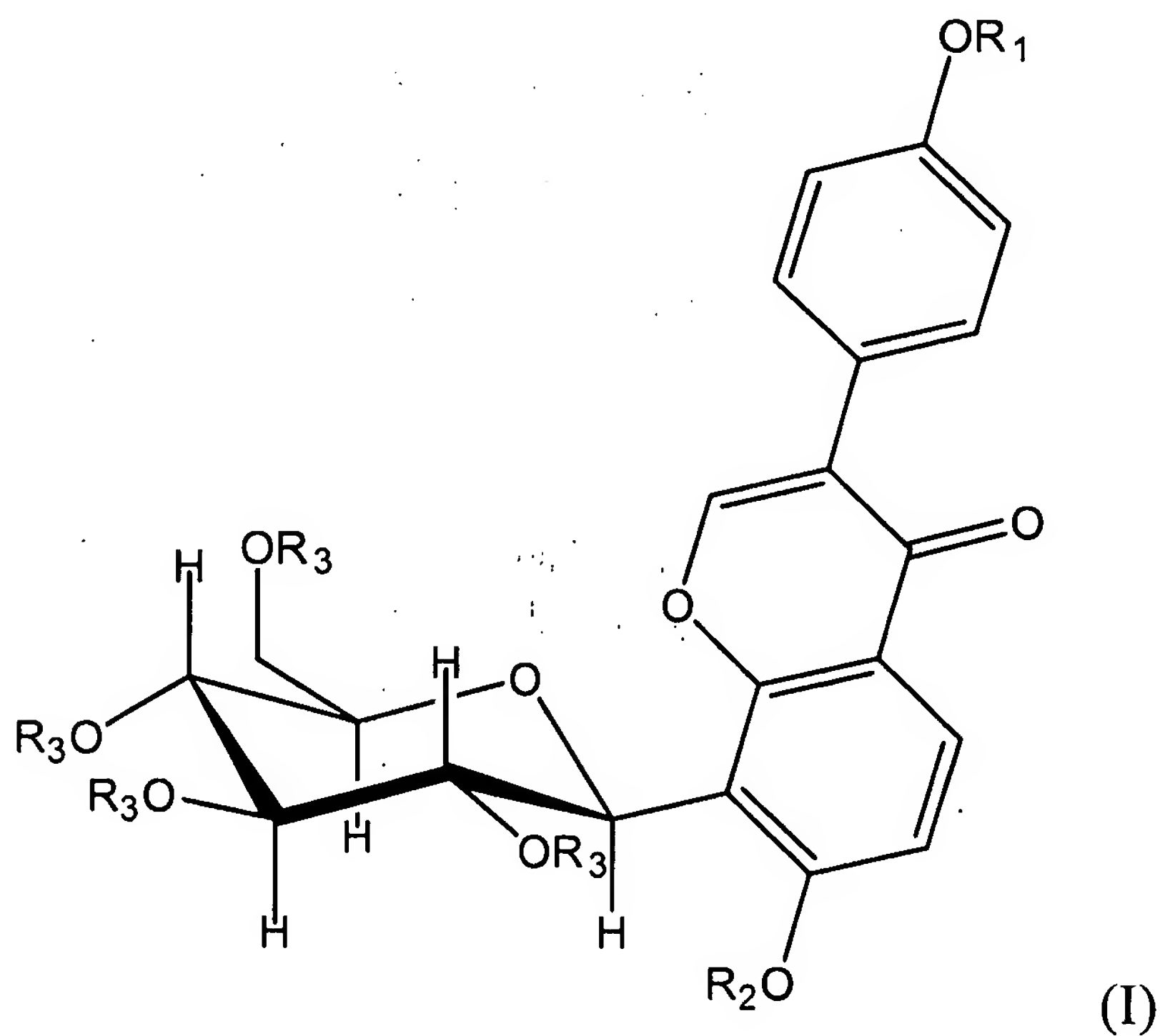
Reply to Office action of March 19, 2009

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A C-Glycosylisoflavone compound of the formula (I) having alkylaminoalkoxyl substituent or a pharmaceutically acceptable salt thereof:



wherein, R<sub>1</sub> and R<sub>2</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>12</sub>) linear or branched alkylamino (C<sub>1</sub>-C<sub>6</sub>)alkyl, mono- or di-(C<sub>3-8</sub>)cycloalkylamino-C<sub>1-6</sub>alkyl, [[or]]and (C<sub>5</sub>-C<sub>14</sub>)heterocyclic-(C<sub>1</sub>-C<sub>6</sub>)alkyl; R<sub>3</sub> is selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>12</sub>) linear or branched acyl[[, or]] and C<sub>6-14</sub> aryl carbonyl; wherein R<sub>1</sub> and R<sub>2</sub> do

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not represent hydrogen simultaneously; the 1-position of D-glucosyl is connected with the 8-position of the isoflavone in a form of  $\beta$ -configured C-glycoside, wherein the mono- or di-(C<sub>3-8</sub>)cycloalkylamino group of the mono- or di-(C<sub>3-8</sub>)cycloalkylamino-C<sub>1-6</sub>alkyl includes pyrrolidinyl and morpholinyl, and the (C<sub>5-14</sub>)heterocyclic group of the (C<sub>5-14</sub>)heterocyclic-(C<sub>1-6</sub>)alkyl is selected from the group consisting of piperidyl, piperazinyl, N-methylpiperazinyl, and N-ethylpiperazinyl.

2. (Currently Amended) The compound according to claim 1, characterized in that in formula [(2)] (I), R<sub>1</sub> and R<sub>2</sub> are independently selected from the group consisting of hydrogen, dimethylaminoethyl, diethylaminoethyl, di(n-propyl)aminoethyl, di(iso-propyl)aminoethyl, di(n-butyl)aminoethyl, di(iso-butyl)aminoethyl, di(tert-butyl)aminoethyl, pyrrolidinylethyl, piperidylethyl, morpholinylethyl, piperazinylethyl, N-methylpiperazinylethyl, N-ethylpiperazinylethyl, tert-butylaminoethyl, dicyclohexylaminoethyl, dimethylaminopropyl, diethylaminopropyl, di(n-propyl)aminopropyl, di(iso-propyl)aminopropyl, di(n-butyl)aminopropyl, di(iso-butyl)aminopropyl, di(tert-butyl)aminopropyl, pyrrolidinylpropyl, piperidylpropyl, morpholinylpropyl, piperazinylpropyl, N-methylpiperazinylpropyl, N-ethylpiperazinylpropyl, tert-butylaminopropyl, dicyclohexylaminopropyl, dimethylaminobutyl, diethylaminobutyl, di(n-propyl)aminobutyl, di(iso-propyl)aminobutyl, di(n-butyl)aminobutyl, di(iso-butyl)aminobutyl, di(tert-butyl)aminobutyl, pyrrolidinylbutyl, piperidylbutyl, morpholinylbutyl, piperazinylbutyl, N-methylpiperazinylbutyl, N-ethylpiperazinylbutyl, tert-butylaminobutyl, and dicyclohexylaminobutyl, wherein R<sub>1</sub> and R<sub>2</sub> do not represent hydrogen simultaneously; R<sub>3</sub> is selected from the group consisting of hydrogen, propionyl, butyryl, isobutyryl, 2-methylbutyryl, 3-methylbutyryl, 2,2-dimethylpropionyl, valeryl, caproyl, heptanoyl, octanoyl, nonanoyl, decanoyl, and lauroyl; [[or a]] and wherein the pharmaceutically acceptable salt is selected from the group consisting of [[the]] salts of hydrochloric acid, hydrobromic acid, phosphoric acid, phosphorous acid, sulfuric acid, methane sulfonic acid, p-toluene sulfonic acid, maleic acid, fumaric acid, tartaric acid, and various natural or non-natural amino acids.

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3. (Currently Amended) The compound according to claim 1, wherein the compound of the formula (I) is selected from the group consisting of:

4'-(3-N-piperidylpropoxy)-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)isoflavone,

4'-(3-N-morpholinylpropoxy)-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)isoflavone,

4'-(3-N-pyrrolidinylpropoxy)-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)isoflavone,

4'-(3-diethylaminopropoxy)-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)isoflavone,

4'-[3-di(n-propyl)aminopropoxy]-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)

isoflavone,

4'-[3-di(n-butyl)aminopropoxy]-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)

isoflavone,

4'-[3-(4-methylpiperazinyl)propoxy]-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)

isoflavone,

4'-[3-(4-ethylpiperazinyl)propoxy]-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)

isoflavone,

4'-(4-N-piperidylbutoxy)-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)isoflavone,

4'-(4-N-morpholinylbutoxy)-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)isoflavone,

4'-(4-N-pyrrolidinylbutoxy)-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)isoflavone,

4'-(4-diethylaminobutoxy)-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)isoflavone,

4'-(4-di(n-propyl)aminobutoxy)-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)- isoflavone,

4'-(4-di(n-butyl)aminobutoxy)-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)

isoflavone,

4'-[4-(4-methylpiperazinyl)butoxy]-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)

isoflavone,

4'-[4-(4-ethylpiperazinyl)butoxy]-7-hydroxy-8- $\beta$ -D-(1-deoxyglucosyl)

isoflavone,

[[or]] and a pharmaceutically acceptable salt thereof.

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4. (Currently Amended) A pharmaceutical composition comprising [[a]] the C-Glycosylisoflavone compound of claim 1 and a pharmaceutically acceptable carrier.
5. (Currently amended) A preparation method of [[a]] the C-Glycosylisoflavone compound of claim 1, characterized in comprising, reacting puerarin material with a corresponding suitable bis-functional group substituted compound ~~such as a bihalogenated hydrocarbon, an alkylene bissulfonate, or a halogenated hydrocarbon monosulfonate etc.~~, in a suitable solvent selected from water, acetone, dimethylformamide, dimethyl sulfoxide, and lower alcohols, under the presence of a base, an ambient to reflux- temperature, which is firstly mono-etherified followed by amination and/or salt-formation, to give the corresponding alkylaminoalkoxyl-substituted C-Glycosylisoflavone compound or a pharmaceutically acceptable salt thereof.
6. (Currently amended) ~~Use of a compound of claim 1 in the manufacture of a medicament~~  
A method for [[the]] treatment of cardio- and cerebrovascular diseases as well as a medicament for the treatment of hypoxia or ischemia, comprising administering a therapeutically effective amount of the C-Glycosylisoflavone compound of claim 1 to a patient in need.
7. (Currently amended) ~~Use of a compound of claim 1 in the manufacture of a medicament~~  
A method for [[the]] treatment of diabetes as well as diabetic complications, comprising administering a therapeutically effective amount of the C-Glycosylisoflavone compound of claim 1 to a patient in need.
8. (Currently amended) ~~Use of a compound of claim 1 in the manufacture of a medicament~~  
A method for [[the]] treatment of chemical poisoning, particularly alcoholism comprising administering a therapeutically effective amount of the C-Glycosylisoflavone compound of claim 1 to a patient in need.
9. (New) The preparation method as set forth in claim 5, wherein said bis-functional group substituted compound is selected from the group consisting of a bihalogenated hydrocarbon, an alkylene bissulfonate, and a halogenated hydrocarbon monosulfonate.

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10. (New) The method as set forth in claim 8, wherein said chemical poisoning is alcohol poisoning.